

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB2004/004058

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/82 C07K14/415

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EP0-Internal, BIOSIS, MEDLINE, EMBASE, Sequence Search, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	JONES L. ET AL: "A role for expansins in dehydration and rehydration of the resurrection plant <i>Craterostigma plantagineum</i> " FEBS LETTERS, ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM, NL, vol. 559, no. 1-3, 13 February 2004 (2004-02-13), pages 61-65, XP004489748 ISSN: 0014-5793 the whole document	1-22
P,X	WO 03/087313 A (PIONER HI-BRED INTERNATIONAL, INC.) 23 October 2003 (2003-10-23) claim 12	1-3,5, 8-13,21
P,Y		4,6,7
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☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

19 January 2005

Date of mailing of the international search report

09.05.2005

Name and mailing address of the ISA

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02/16613 A (INSTITUTO DE CIENCIA APLICADA E TECNOLOGIA) 28 February 2002 (2002-02-28)	1-3,5, 8-13,21
Y	claims 11-13,25,26,29-31; example 4; sequences 7,8	4,6,7
X	WO 01/23530 A (UNIV CALIFORNIA) 5 April 2001 (2001-04-05)	1-3,5, 8-13,21
Y	claims 1-11; example 1	4,6,7
Y	LEE Y.I. ET AL: "Expansins: Ever-expanding numbers and functions" CURRENT OPINION IN PLANT BIOLOGY, QUADRANT SUBSCRIPTION SERVICES, GB, vol. 4, no. 6, December 2001 (2001-12), pages 527-532, XP002292515 ISSN: 1369-5266 cited in the application the whole document	4,6,7, 15-20
Y	US 6 255 466 B1 (MCQUEEN-MASON SIMON ET AL) 3 July 2001 (2001-07-03) column 1, line 53 - column 2, line 60	15-20
Y	COSGROVE D.J.: "Loosening of plant cell walls by expansins" NATURE, MACMILLAN JOURNALS LTD. LONDON, GB, vol. 407, 21 September 2000 (2000-09-21), pages 321-326, XP002971580 ISSN: 0028-0836 the whole document	15-20
Y	COSGROVE D.J.: "Enzymes and other agents that enhance cell wall extensibility." ANNUAL REVIEW OF PLANT PHYSIOLOGY AND PLANT MOLECULAR BIOLOGY. 1999, vol. 50, 1999, pages 391-417, XP002313633 ISSN: 1040-2519 the whole document	15-20
A	VICRE M. ET AL: "Cell wall characteristics and structure of hydrated and dry leaves of the resurrection plant Craterostigma wilmsii, a microscopical study" JOURNAL OF PLANT PHYSIOLOGY, vol. 155, no. 6, December 1999 (1999-12), pages 719-726, XP009042638 ISSN: 0176-1617 cited in the application the whole document	
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>WU Y. ET AL.: "Growth maintenance of the maize primary root at low water potentials involves increases in cell-wall extension properties, expansion activity, and wall susceptibility to expansions"</p> <p>PLANT PHYSIOLOGY (ROCKVILLE), vol. 111, no. 3, 1996, pages 765-772, XP002313632 ISSN: 0032-0889 cited in the application the whole document</p> <p>-----</p>	

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International application No.
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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-22 (partial)

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-22 (partial)

Subject-matter relating to nucleic acid of SEQ ID N°1
encoding CplExp1 expansin of SEQ ID N°2 and uses thereof.

2. claims: 1-22 (partial)

Subject-matter relating to nucleic acid of SEQ ID N°3
encoding CplExp2 expansin of SEQ ID N°4 and uses thereof.

3. claims: 1-22 (partial)

Subject-matter relating to nucleic acid of SEQ ID N°5
encoding CplExp 3 expansin of SEQ ID N°6 and uses thereof.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 03087313	A	23-10-2003	AU 2003233489 A1 CA 2481504 A1 WO 03087313 A2 US 2003221224 A1	27-10-2003 23-10-2003 23-10-2003 27-11-2003
WO 0216613	A	28-02-2002	PT 102511 A AU 8273101 A BR 0113366 A EP 1322770 A2 WO 0216613 A2 US 2004049809 A1	28-02-2002 04-03-2002 29-07-2003 02-07-2003 28-02-2002 11-03-2004
WO 0123530	A	05-04-2001	WO 0123530 A1	05-04-2001
US 6255466	B1	03-07-2001	US 5959082 A US 2002103355 A1 AU 4026295 A WO 9635442 A1 US 5990283 A AU 6832094 A CA 2162721 A1 EP 0753054 A1 JP 8510728 T WO 9426878 A1	28-09-1999 01-08-2002 04-04-1996 14-11-1996 23-11-1999 12-12-1994 24-11-1994 15-01-1997 12-11-1996 24-11-1994